



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/825,981

04/16/2004

Youji Yamamichi

04228/LH

8748

1933 7590 02/21/2008
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC
220 Fifth Avenue
16TH Floor
NEW YORK, NY 10001-7708

EXAMINER

THOMAS, MIA M

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

02/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,981	YAMAMICHI, YOUJI	
	Examiner	Art Unit	
	Mia M. Thomas	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/22/06; 8/2/04</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Amendment

2. This Office Action is responsive to applicant's preliminary amendment and remarks received on April 16, 2004.

- Claims 1-36 are currently pending.

Examiner has accepted amendment as of the date of this Office Action.

Claim Objections - 37 CFR 1.75(a)

3. The following is a quotation of 37 CFR 1.75(a):

The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention or discovery.

4. Claim 34 is objected to under 37 CFR 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery. Regarding claim 34, the claim depends from Claim 39. Presently, there is not a Claim 39 in application number 10/825, 981. However, it appears from the context of the claim when read in light of the specification that Claim 34 does in fact dependent on Claim 29 and not Claim 39. It

Art Unit: 2624

appears to that Claim 34 has a typographical error; and this will be assumed for examination purposes:

Claim 34: The medical image processing method of Claim 29 ...

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. For example, at Claims 2 and 22, the Examiner suggests that the claim be amended to conform to the following claim for example. *Note: The Examiner's suggestion does not change the scope of the invention and is only a mere suggestion to overcome the claim rejection.

Claim 2: The medical image processing system of Claim 1, wherein the new radiograph-related information is visualized at a specified position in an enlarged form (or Applicant can use format, or appearance to replace the word form).

Another example is at Claim 11, lines 15-16, Examiner can readily understand and interpret applicant's intended claim interpretation however, the manner in which the N-th (radiograph-related information) is denoted, is improper U.S. language and practice. Examiner suggests

Art Unit: 2624

using a superscript to correct these claim rejections for claims 11 and 31 which recite the same problems.

For example,

...selecting N^{th} radiograph-related information from the radiograph-related information other than the first and $(N-1)^{\text{th}}$ or $N-1^{\text{th}}$ radiograph-related information, wherein N is assumed as a parameter of a natural number in where $N > 2$;...

7. Claims 11 and 31 recites the limitation ""the first radiograph-related information" at line 3 (Claim 11). There is insufficient antecedent basis for this limitation in the claim. A solution to resolve this antecedent basis problem is to change "selecting the first radiograph-related information" to "selecting a first radiograph-related information". **Appropriate correction is required.**

8. Claims 14 and 34 recites the limitation "the threshold value" at line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim. **Appropriate correction is required.**

9. Claims 9, 11, 12, 29, 31 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to Claims 9 and 29, the term "comparing" is referring to what exactly? It appears that this portion of the claim is an incomplete thought. What elements are being compared after the calculation to determine matches or mismatches pertaining to the plural sets of radiograph-

Art Unit: 2624

related information? Is it the matched or mismatched pixels or is the comparison referring to the plural sets of radiograph-related information?

With regards to Claims 11 and 31, the term “this information” (@ line 12) is referring to what comparison? Is the comparison referring to the second radiograph-related information and any other radiograph-related information that is not the first radiograph-related information? Or, is the comparison between the pixels of the radiograph-related information? What is “this information”? Similarly at Claim 11, line 19, the same question is what is “this information”? What comparison is going on?

Additionally, at Claim 11, there appears to be a missing variable of comparison with respect to the “other than” radiograph-related information as denoted at line 10. Clarity of the comparisons and the variables (first radiograph-related information) associated with those variables is imperative to the rest of the claim language and interpretation.

With regards to Claims 12 and 32, the term “the comparing” is referring to the same comparison in question at Claim 11. Clarification and correction of the aforementioned unclear claim interpretation is required to resolve the rejection concerning the claims from which they depend.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2624

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-5, 21-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Park US 2005/0078857 A1.

Regarding Claim 1: Park discloses a medical image processing system (“Disclosed is a medical image processing system...” @ abstract) for visualizing plural medical images of a subject in multi-format on a single image plane on one of a film sheet and a screen (Specifically refer to Figure 1, numeral 220 that houses an image processor unit which reads a medical image out of the medical image database. Details of these specific limitations are all included @ the abstract), comprising:

a radiographing section for radiographing the subject so as to generate plural sets of image information in which each set of image information includes medical image information and radiograph-related information related to at least one of the subject and the radiographing section

Art Unit: 2624

(Figures 2-7 represent the radiograph-related information obtained of a subject via a CT to MRI as disclosed at paragraph [0006]. Paragraphs [0056] and [0057] exemplify the details of this limitation)

an extracting section for extracting plural sets of radiograph-related information from the plural sets of image information (Refer to Figure 9, numeral a-2)

a calculating section for conducting calculation for the plural sets of radiograph-related information so as to obtain new radiograph-related information (Refer to Figure 9, numeral b-1)

and a visualizing section for visualizing the plural sets of image information with the new radiograph-related information on the single image plane (Refer to Figure 9, numeral a-4; specifically “to provide a medical image processing system, which has a graphic user interface and is based on Microsoft Windows operating system.” at paragraph [0005]).

Regarding Claim 2: Park discloses wherein the new radiograph-related information is visualized at a specified position in an enlarge form (Refer to Figure 9, steps b and c; “An algorithm for extracting a lung cancer image comprises a lung segmentation step A, a step B in which said boundary image is enlarged using a morphological filter in order that the lung image contains lung cancer tissue, a step C in which the pixels having gray values larger than a predetermined value in said lung segmented image are eliminated...” at paragraph [0074].

Regarding Claim 3: Park discloses wherein the radiographing section comprises a position information generating device for generating the position information which specifies the position of the radiograph-related information in the image information (Refer to Figure 9,

Art Unit: 2624

numeral a-2; “A contrast ratio calculating step A comprises a pre-process step a-1, sample extracting step a-2 and position searching step.” at paragraph [0069]),

and the extracting section extracts the radiograph-related information based on the position information (Refer to Figure 9, numeral b-3; “The system should be able to extract from an image file a specific image of an organ that is selected by a user.” @ paragraph [0027]).

Regarding Claim 4: Park discloses further comprising: a setting section for setting the layout position for visualization of the radiograph-related information (“Another object of the present invention is to provide a medical image processing system, which has a graphic user interface and is based on Microsoft Windows operating system.” @ paragraph [0005]). By definition, according to www.microsoft.com/typography, a Windows operating system services provides service libraries that assist applications in layout operation. Many Microsoft applications now use these libraries, which provide consistency, save development time, and insulate product develops from many complex script issues.

Regarding Claim 5: Park discloses wherein the calculating section divides the pixels in the area where the radiograph-related information is present (Refer to the algorithm associated with the flowchart of Figure 12 and further at paragraph [0081], volume calculations require the division of the pixels associated with the stomach (here for this instance), additionally, a searching step also divides the food filled and air filled parts of the stomach image associated with Figure 12).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 17, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 2005/0078857 A1) in combination with Marshall et al. (Us 5,917,929).

Regarding Claim 19: Park discloses all the claimed elements as listed above. However, Park does not specifically disclose [wherein the] visualizing section is comprised in an imager that prints the image information on the film, wherein the extracting section, the calculating section, the visualizing section and setting section are comprised in one of the imager and a processor that process the image information.

Marshall teaches wherein the visualizing section (Refer to Figure 1 via numerals 104 and 106) is comprised in an imager that prints the image information on the film ("A user interface for facilitating the input of films into a computer-aided diagnosis system is disclosed. The user interface includes a scanner which receives and scans the film-based images, and a film feeder which holds and transports them to the scanner." @ abstract) wherein the extracting section, the calculating section, the visualizing section and setting section are comprised in one of the imager

Art Unit: 2624

and a processor that process the image information (Refer to Figure 1, numeral 100 via the image processing processor as described).

Park and Marshall are combinable because they are in the same field of medical image processing systems that recognize and analyze image portions, specifically computer aided systems.

At the time the invention was made, it would have been obvious to incorporate a visualizing section which comprises an imager that prints the image information on the film as taught by Marshall to the a medical image processing system, specifically the visualizing section, and the extracting and calculating sections as disclosed by Park because "It is believed a CAD system (visualizing system), serving as an electronic reminder or second reader, can assist radiologists in obtaining higher detection rates, or higher sensitivity for abnormalities. Additionally, such CAD systems can assist radiologists in reducing the misdiagnosis rate, or lowering the false negative rate." at column 1, line 32. Therefore, it would have been obvious to combine the teachings of Marshall and the disclosure of Park to obtain the invention as specified at Claim 19.

Art Unit: 2624

Regarding Claim 20:

Marshall teaches wherein the imager or the processor comprises the setting section and a density reversing section for reversing the density of the new radiograph-related information on the film sheet (Refer to Figure 5, numeral 118).

Specifically, Examiner notes that the touch sensitive display used for setting and density reversal can be a Windows based interactive operating system which addresses all the limitations as disclosed at Claim 20.

Regarding Claim 17: Marshall teaches wherein the extracting section, the calculating section and visualizing section are comprised in an imager that prints the image information on the film sheet (Refer to Figure 5; “Referring now to FIG. 5, display panel 118 is described in greater detail, according to a preferred embodiment of the invention. Display panel 118 is capable of displaying a number of different screens, depending on the particular application. Shown in FIG. 5 is control panel screen 148, which provides convenient operator controls and advantageously displays the status during different steps of processing.” at column 6, line 32. Also, “In particular, it has been found that providing a film feeding mechanism which holds multiple films and automatically feeds the films to the scanner greatly reduces the time and labor required to load and input films into the system.” at column 3, line 1).

Art Unit: 2624

14. Claims 6- 8, 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 2005/0078857 A1) in combination with Vuylsteke US (7,155,044 B2).

Regarding Claim 6:

Park discloses all the claimed elements as listed above. Park does not specifically disclose the calculation conducted by the calculating section comprises integration of the pixels at the same position pertaining to the plural sets of radiograph-related information.

Vuylsteke teaches wherein the calculation conducted by the calculating section comprises integration of the pixels at the same position pertaining to the plural sets of radiograph-related information ("The cumulative conversion functions are then obtained by integration:

$$F_0(t) = \int_{t_0}^t g_{m_L}(x) \cdot dx$$

$$F_k(t) = \int_{t_0}^t \frac{g_{m_L}(x)}{g_{m_{k-1}}(x)} \cdot dx \quad k = 1, 2, \dots, L$$

where t_0 is the abscissa t at which $F_k(t)=0$. This parameter determines the offset of the cumulative conversion functions. For convenience, it may be set to 0; then all cumulative conversion functions will cross the origin of the coordinate system." at column 15, lines 21-39).

Park and Vuylsteke are combinable because they are in the same field of medical image processing with an image enhancement emphasis.

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to conduct a calculation comprising integration of pixels at the same position pertaining to a plural set of radiograph-related information.

Art Unit: 2624

The suggestion/motivation for doing so would be to create a more efficient manner in which to calculate variations of the same information for plural sets of image data. Additionally, “the body segment is linear [and this integration] ensures a fixed predefines gradient across the body subrange, which is intended to coincide with the most relevant subrange of pixel values.” at column 16, lines 43-65.

Regarding Claim 7: Vuylsteke teaches wherein the calculation comprises processing of averaging based on the numeral of the integration, subsequent to the integration (In summary, “In the present context, the pixel values t are referred to as the large-scale average grey values.” at column 14, lines 44-58).

Regarding Claim 8: Vuylsteke teaches wherein the calculation comprises processing of binarization, subsequent to the integration (“To this end, a first grey value histogram is computed of the enhanced image, and a second histogram of the same image, the second histogram being restricted to those pixels that are flagged as relevant in a binary mask image, that has the same dimensions as the enhanced image.” at column 20, lines 7-11).

15. Claims 9-14, 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 2005/0078857 A1).

Regarding Claim 9, As best understood by the Examiner, Park discloses wherein the calculation comprises comparing to determine match or mismatch of pixels in the same position pertaining

Art Unit: 2624

to the plural sets of radiograph-related information ("The other group consists of developers, who develop more efficient new algorithms for medical image processing. They check medical images on the screen, selectively employ a develop algorithm and understand features like pixel values, brightness values, etc. of medical images."@ paragraph [0024])

Regarding Claim 10, As best understood by the Examiner, Park discloses wherein the comparing in the calculation carries out processing of comparing the pixels in the radiograph-related information based on combinations of the plural sets of radiograph-related information (Refer to Figure 9, numeral b-1 and further at paragraph [0072]).

Regarding Claim 11, As best understood by the Examiner, Park discloses wherein the combinations are decided by the steps of: selecting the first radiograph-related information from the plural sets of radiograph-related information (Refer to Figure 9, "Start" and "Preprocessing (a-1)"); comparing pixels between the first radiograph-related information and the radiograph-related information other than first radiograph-related information (Figure 9, numeral a-2, represents the first radiographed information and numeral b-2 corresponds with the information other than the first radiograph-related information, then at step c-1 and c-2, the pixels are compared by way of subtraction and filling in);

selecting the second radiograph-related information from the second radiograph-related information and information other than the first radiograph-related information (Refer to Figure 9, "Start" and "Preprocessing" wherein at the initial preprocessing step, the user can now pick/choose another radiograph-related information set); comparing pixels between this

Art Unit: 2624

information and the radiograph-related information other than the first and second radiograph-related information (Figure 9, numeral a-2, represents a second radiographed information and numeral b-2 corresponds with the information other than the first and second radiograph-related information, because the user can "select a template" that may also be considered reference data then at step c-1 and c-2, the pixels are compared by way of subtraction and filling in); selecting N-th radiograph-related information from the radiograph-related information other than the first and N-1-th radiograph-related information, wherein N is assumed as a parameter of natural number in excess of 2; and comparing pixels between this information and the radiograph-related information other than 1st through N-th radiograph-related information in sequentially repeatedly until N--1 becomes equal to the number of the radiograph-related information items (Repeat the applied processing steps as listed above for the first and the second radiograph-related information).

Examiner has found that the iteration of selections and comparisons in claim 11 is performed via the processing steps of Figure 9 as disclosed by Park. Park disclosed in this invention that this technique of selection and comparison could be applicable as a basis for the multiple radiograph-related information data. The claimed limitation of Claim 11 would have been obvious to one of ordinary skill in the art because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art and is previously rejected at the steps above at claim 11. The selection of an Nth radiograph-related information wherein N is assumed as a parameter of a natural number in excess of 2 and comparison of the pixels between the Nth and information other than the first and second radiograph related information would have yielded a predictable

Art Unit: 2624

result of enabling the user to identify a match or mismatch of pixels in the information based upon the previous or reference radiograph-related information. Therefore, the application of this known technique to a known method ready for improvement would have yielded predictable results to one of ordinary skill in the art.

Regarding Claim 12: As best understood by the Examiner, Park discloses wherein the comparing which uses the N-th radiograph-related information is not carried out in the combinations, if there is a match between the N-th radiograph-related information and N-1-th radiograph-related information (Refer to Figure 13, numerals S3-S8). For clarity of Examiners interpretation, the Examiner assumes that the comparison is made based upon the radiograph related information, therefore at Figure 13, an organ-searching algorithm is described. Specifically at steps S4 and S5, the a first extraction is made and then a second extraction is made, however, one of ordinary skill in the art would easily derive that if there is a match between the N-th and the Nth-1 radiograph-related information, to simply skip or remove an extraction step to generate a new radiograph related information used further for comparison.

Regarding Claim 13: As best understood by the Examiner, Park discloses wherein the extracting section ensures that the pixels containing the greatest number of matched pixels among the mismatched pixels as a result of the calculation of comparing are the pixels of the new radiograph-related information (By way of example, Refer to Figure 13, numeral S-7. For clarity of Examiner's interpretation, Examiner states that the extraction occurs at steps S4 and S5 and based upon the greatest number of matched pixels through the extraction, the pixels are filled

Art Unit: 2624

in as a result of a calculation which ensures the matched pixels to appear before the last kidney image is displayed at numeral S-8).

Regarding Claim 14: As best understood by the Examiner, Park discloses wherein the extracting section ensures that, when the number of the matched pixels has exceeded the threshold value, these pixels are those of the new radiograph-related information (By way of example, refer to Figure 11, numeral (step) a-2; “The single slice processing step further comprise a step a-1 in which an area, which has a contrast value of a predetermined range near a peak value among brightness values of spines in a single slice, is defined as a kidney, a step a-2 in which a binary image is generated by converting the pixels of the images in reference to the threshold value...” at paragraph [0079]).

16. Claims 15, 16, 18, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 2005/0078857 A1) in combination with Goto US (7,298,878 B2).

Regarding Claim 15:

Park discloses all the claimed elements as listed above. Park does not specifically disclose a density reversing section for reversing the density of the new radiograph-related information on the plane.

However, Goto teaches a density reversing section for reversing the density of the new radiograph-related information on the plane (By way of example, Goto teaches figure 14a and

Art Unit: 2624

14b which are "...a conceptual diagram showing a method of searching for a pixel whose density is to be found, spirally from the central position of a shadow..." at column 2, line 44; Also, at Figure 5, Goto teaches a method of density reversal based upon a multi-valued image processing step. Refer to steps S11-S20.)

Park and Goto are combinable because they are in the same field of medical image processing and computer aided diagnosis devices.

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate a density reversing section for reversing the density of the new radiograph-related information on the plane.

The suggestion/motivation for doing so would be to analyze the medical image data and further the user will have the capability to generate a medical image based upon the parameters which are created by the density reversal section. Moreover, the parameters created by the density reversal section will indicate "a shadow, such as a small shadow, large shadow or a ground glass opacity."

Regarding Claim 16: Goto teaches a setting section for setting the layout position for visualization of the radiograph-related information; and a density reversing section for reversing the density of the new radiograph-related information on the plane (Refer to Figure 34; "FIG. 34 is a diagram showing one example of a picture for setting the parameters required for the processing of each of the decision making subroutines." at column 3, line 34).

Art Unit: 2624

Regarding Claim 18: Goto teaches wherein the extracting section, the calculating section, the visualizing section, the setting section and the density reversing section are comprised in an imager that prints the image information on the film sheet (Refer to Figure 4).

Regarding Claim 21: Claim 21 equally resembles the claimed elements of Claim 1. Claim 21 is rejected for the same reasons as listed above at Claim 1. Further Claim 21 is the claimed method step of the apparatus of Claim 1.

Regarding Claim 22: Claim 22 equally resembles the claimed elements of Claim 2. Claim 22 is rejected for the same reasons as listed above at Claim 2. Further Claim 22 is the claimed method step of the apparatus of Claim 2.

Regarding Claim 23: Claim 23 equally resembles the claimed elements of Claim 3. Claim 23 is rejected for the same reasons as listed above at Claim 3. Further Claim 23 is the claimed method step of the apparatus of Claim 3.

Regarding Claims 24-36: Claims 24-36 correspond with the claims with which they have equal claim limitations. For clarity, Claim 24 with Claim 4, Claim 25 with Claim 5, Claim 26 with Claim 6, Claim 27 with Claim 7, Claim 28 with Claim 8, Claim 29 with Claim 9, Claim 30 with Claim 10, Claim 31 with Claim 11, Claim 32 with Claim 12, Claim 33 with Claim 13, Claim 34 with Claim 14, Claim 35 with Claim 15 and Claim 36 with Claim 16. Claims 24-36 are rejected

Art Unit: 2624

for the same reasons as listed above with respect to their corresponding apparatus claim as clearly stated above. Claims 24-36 are the claimed method steps of the apparatus steps of Claims 4-16.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 7095882 B2

US 6887633

US 7127090

US 5528703

US 7050616

WO 02/45437 A2

"Introduction: Open Type font Development".

www.microsoft.com/typography/otfntdev/intor.htm, 21 December 2001. Microsoft Corporation.

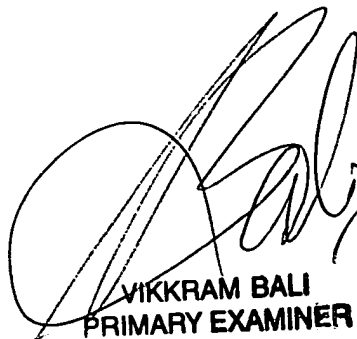
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mia M. Thomas whose telephone number is 571-270-1583. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mia M Thomas
Examiner
Art Unit 2624



VIKKRAM BALI
PRIMARY EXAMINER